

**CLAIMS**

1           1. A method of compressing data, comprising the step of approximating said  
2 data using Chebyshev polynomials.

1           2. The method of claim 1, further comprising the step of:  
2           dividing said data into data blocks of a predetermined size, to form matrices  
3 corresponding to each data block; and  
4           transforming the data in each matrix using Chebyshev polynomials to form  
5 corresponding matrices of Chebyshev coefficients.

1           3. The method of claim 2, further comprising the step of:  
2           thresholding the Chebyshev coefficients in each matrix to retain in each matrix  
3 only Chebyshev coefficients that are of a predetermined value.

1           4. The method of claim 3, further comprising the step of:  
2           quantizing said Chebyshev coefficient matrices to create a compressed data block  
3 corresponding to each of said data blocks.

1           5. The method of claim 4, further comprising the step of:  
2           creating control words for each of said compressed data blocks, said control  
3           enabling decompression of said compressed data blocks in proper sequence.

1           6. The method of claim 5, wherein said quantizing step comprises at least the step  
2           of:  
3           performing floating point quantization on said Chebyshev coefficient matrices.

1           7. The method of claim 5, wherein said quantizing step comprises at least the step  
2           of:  
3           performing inverse hyperbolic sine compander quantization on said Chebyshev  
4           coefficient matrices.

1           8. The method of claim 5, further comprising the step of:  
2           losslessly compressing said control words.

1           9. The method of claim 8, further comprising the steps of:  
2           transmitting said compressed data blocks and said compressed control words to a  
3 receiver;  
4           decoding said compressed control words and compressed data blocks; and  
5           performing block artifact reduction on said decoded data blocks.

1           10. A system of compressing data, comprising means for approximating said data  
2 using Chebyshev polynomials.

1           11. The system of claim 10, further comprising:  
2           means for dividing said data into data blocks of a predetermined size, to form  
3 matrices corresponding to each data block; and  
4           means for transforming the data in each matrix using Chebyshev polynomials to  
5 form corresponding matrices of Chebyshev coefficients.

1           12. The system of claim 11, further comprising:  
2           means for thresholding the Chebyshev coefficients in each matrix to retain in each  
3 matrix only Chebyshev coefficients that are of a predetermined value.

1     13. The system of claim 12, further comprising:  
2             means for quantizing said Chebyshev coefficient matrices to create a compressed  
3     data block corresponding to each of said data blocks.

1             14. The system of claim 13, further comprising:  
2             means for creating control words for each of said compressed data blocks, said  
3     control enabling decompression of said compressed data blocks in proper sequence.

1             15. The system of claim 14, wherein said means for quantizing comprises:  
2             means for performing floating point quantization on said Chebyshev coefficient  
3     matrices.

1             16. The system of claim 14, wherein said means for quantizing comprises:  
2             means for performing inverse hyperbolic sine compander quantization on said  
3     Chebyshev coefficient matrices.

1             17. The system of claim 14, further comprising:  
2             means for losslessly compressing said control words.

1           18. The system of claim 17, further comprising:  
2           means for transmitting said compressed data blocks and said compressed control  
3 words to a receiver;  
4           means for decoding said compressed control words and compressed data blocks;  
5 and  
6           means for performing block artifact reduction on said decoded data blocks.

1           19. A computer program product recorded on computer readable medium for  
2 compressing data, comprising computer readable means for approximating said data  
3 using Chebyshev polynomials.

1           20. The computer program product of claim 19, further comprising:  
2           computer readable means for dividing said data into data blocks of a  
3 predetermined size, to form matrices corresponding to each data block; and  
4           computer readable means for transforming the data in each matrix using  
5 Chebyshev polynomials to form corresponding matrices of Chebyshev coefficients.

1           21. The computer program product of claim 20, further comprising:  
2           computer readable means for thresholding the Chebyshev coefficients in each  
3 matrix to retain in each matrix only Chebyshev coefficients that are of a predetermined  
4 value.

1           22. The computer program product of claim 21, further comprising:  
2           computer readable means for quantizing said Chebyshev coefficient matrices to  
3 create a compressed data block corresponding to each of said data blocks.

1           23. The computer program product of claim 22, further comprising:  
2           computer readable means for creating control words for each of said compressed  
3 data blocks, said control enabling decompression of said compressed data blocks in  
4 proper sequence.

1           24. The computer program product of claim 23, wherein said computer readable  
2 means for quantizing comprises:  
3           computer readable means for performing floating point quantization on said  
4 Chebyshev coefficient matrices.

1           25. The computer program product of claim 23, wherein said computer readable  
2 means for quantizing comprises:  
3           computer readable means for performing inverse hyperbolic sine compander  
4 quantization on said Chebyshev coefficient matrices.

1           26. The computer program product of claim 23, further comprising:  
2           computer readable means for losslessly compressing said control words.

1           27. The computer program product of claim 26, further comprising:  
2           computer readable means for transmitting said compressed data blocks and said  
3 compressed control words to a receiver;  
4           computer readable means for decoding said compressed control words and  
5 compressed data blocks; and  
6           computer readable means for performing block artifact reduction on said decoded  
7 data blocks.

**Docket No. 1825-8688**

1           28. The method of claim 1, wherein said data comprises time-series data.

1           29. The system of claim 10, wherein said data comprises time-series data.

1           30. The computer program product of claim 19, wherein said data comprises  
2   time-series data.